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(54) Title: INTEGRATED MEMORY CONTROLLER CIRCUIT FOR FIBER OPTICS TRANSCEIVER
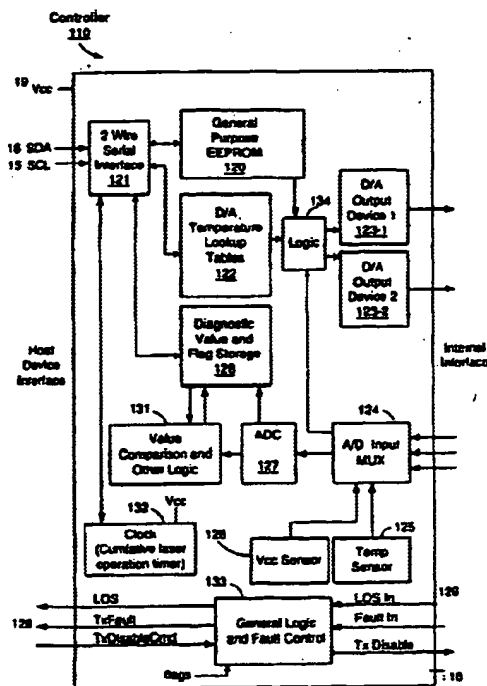
(57) Abstract: A controller (110) for controlling a transceiver having a laser transmitter and a photodiode receiver. The controller includes memory (120, 122, 128) for storing information related to the transceiver, and analog to digital conversion circuitry (127) for receiving a plurality of analog signals from the laser transmitter and photodiode receiver, converting the received analog signals into digital values, and storing the digital values in predefined locations within the memory. Comparison logic (131) compares one or more of these digital values with limit values, generates flag values based on the comparisons, and stores the flag values in predefined locations within the memory. Control circuitry (123-1, 123-2) in the controller controls the operation of the laser transmitter in accordance with one or more values stored in the memory. A serial interface (121) is provided to enable a host device to read from and write to locations within the memory. Excluding a small number of binary input and output signals, all control and monitoring functions of the transceiver are mapped to unique memory mapped locations within the controller. A plurality of the control functions and a plurality of the monitoring functions of the controller are exercised by a host computer by accessing corresponding memory mapped locations within the controller.

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